1221274

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

13-ESQ-0058

AUG 5 2013

Ms. J. A. Hedges, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Hedges:

RESPONSE TO WASHINGTON STATE DEPARTMENT OF ECOLOGY'S (ECOLOGY) DANGEROUS WASTE COMPLIANCE INSPECTION AT THE HANFORD 400 AREA DANGEROUS WASTE MANAGEMENT UNIT RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) IDENTIFICATION NUMBER WA7890008967 ON SEPTEMBER 19 AND 20, 2011

On September 19 and 20, 2011, Ecology along with the U.S. Environmental Protection Agency (EPA) performed a Dangerous Waste Compliance Inspection of the 400 Area Waste Management Unit (400 Area WMU). Based on this inspection, Ecology issued the letter from K. Conaway to M. S. McCormick, RL, and J. C. Fulton, CHPRC, "Department of Ecology's Dangerous Waste Compliance Inspection at Hanford's Fast Flux Test Facility, RCRA ID # WA7890008967," dated June 17, 2013, (received June 19, 2013). The letter transmitted an inspection report alleging five non-compliances based on RCRA Permit Identification Number WA7890008967 (Permit) and Washington Administrative Code (WAC) 173-303, "Dangerous Waste Regulations." The inspection was a "complete evaluation of the facility's two dangerous waste management units and its permit." In addition, six concerns were also identified in the report. A response to the non-compliance allegations is due to Ecology by August 5, 2013.

The U.S. Department of Energy (DOE) Richland Operations Office and CH2M HILL Plateau Remediation Company (CHPRC) disagree with the alleged non-compliances because at the time of the inspection, the 400 Area WMU was operating and continues to operate within the requirements established by dangerous waste regulations, WAC 173-303, and the Ecology approved Permit, including permit modifications. The five non-compliance issues were apparently identified due to a change in regulatory interpretation by EPA and Ecology concerning what classes of permit modifications were required to document changes to the operations of the 400 Area WMU.

The five alleged violations are summarized below:

1. Fast Flux Test Facility (FFTF) personnel failed to conduct weekly inspections as required by the regulations but instead had documented semi-annual inspections, not weekly.

2. Sodium/Potassium (NaK) metal was being stored in the interim storage area (ISA) storage unit that was not specifically identified in the Part A text.

3. NaK waste was stored at the 400 Area WMU ISA for more than one year.

4. DOE and CHPRC failed to submit a class 2 permit modification for a change in the ISA DWMU.

5. FFTF personnel failed to submit a class 1 permit modification for a change in the location of the facility operating record.

More detailed statements of the alleged noncompliances as quoted from the inspection report and permittee responses follow.

Regarding Alleged Noncompliance 1 – Inspections

Allegation:

FFTF personnel failed to perform weekly inspections at the Fuel Storage Facility (FSF) and ISA WMU storage areas. FFTF personnel were performing semi-annual inspections at FSF and ISA although the permit inspection schedule requires a weekly frequency. Inspection logs reviewed at time of inspection documented semi-annual inspection frequency, not weekly. FFTF was claiming that a permit modification to Addendum I was the reason for the change in inspection frequency from weekly to semi-annual. According to Permit Condition I.C.3.a and WAC 173-303-830(4)(b)(i), Appendix I, B General Facility Standards 4, changes in frequency or content of inspection schedules is a Class 2 permit modification. Ecology found no documentation of a Class 2 permit modification request submitted to Ecology from DOE. FFTF had not submitted a class 2 modification request to Ecology.

Permittee Response

The permittees were performing inspections in accordance with the conditions of Addendum I of the Permit that were in effect at the time of Ecology's compliance inspection. Per Permit condition I.E.2 of the Permit, "compliance with this Permit during its term constitutes compliance at those areas subject to this Permit for the purpose of enforcement with WAC 173-303-140, WAC 173-303-180, WAC 173-303-280 through -395, WAC 173 303-600 through -680, WAC 173-303-810, and WAC 173-303-830." A Class 1 permit modification was submitted to Ecology on April 10, 2009, requesting a reduction in inspection frequency for the two container storage areas from "weekly" to "semi-annual." On April 22, 2009, DOE received a concurrence letter from Ecology approving the reduction in inspection frequency. Additional

permit modifications to support this inspection frequency reduction were concurred by Ecology on August 19, 2009. The Permittees were compliant with the permit modification approved in 2009 until notified by Ecology after the inspection that the approved modification was incorrect.

After the September 19 through 20, 2011, inspection; Ecology determined that a Class 2 permit modification that includes public review and comment was needed. In Ecology's letter, 12-NWP-024 dated February 21, 2012, Ecology rescinded the previously approved Class 1 permit modification package and stipulated that the inspection frequency be returned to "weekly" inspections. The weekly inspections were resumed on March 5, 2012. A Class 2 modification package was submitted to Ecology on April 3, 2012, to re-instate the weekly inspection frequency. Ecology approved the permit modification via letter 12-NWP-130, dated July 31, 2012. The permittees have been in compliance the entire time.

Regarding Alleged Noncompliance 2 –Storage of Waste Containing NaK

Allegation:

Since June 2009, 400 Area WMU ISA was storing a dangerous waste, NaK (thirteen pressure transducers containing a sodium potassium alloy), that was not included in Rev 8C permit, and for which 400 Area WMU had not submitted a request for a permit modification. Permit Addendum B, Waste Analysis Plan, section B.1.2, Identification and Classification of Waste states "Waste types not specifically identified in Addendum A, Part A Form are prohibited from storage in the 400 Area WMU." Section B.1.1, Descriptions of unit processes and Activities states "Sodium contamination is associated with the sodium used as coolant in the FFTF reactor." Section B.3, Selecting Waste Analysis Parameters, states, "Sodium is the material of interest to support safe storage of the waste (including contaminated piping, appurtenances, and debris) at the 400 Area WMU, Sodium is a single element waste (i.e., no other chemical contamination) as it was contained in closed-loop cooling systems throughout FFTF reactor operations." Permit Addendum F, Preparedness and Prevention, section F.3.2, Precautions for Handling Ignitable or Reactive Waste and Mixing of incompatible Waste states Metallic sodium, in a solid form due to its high melting point (980 C), is the only waste stored at the 400 Area WMU, This waste, which is a mixed waste, exhibits the characteristics of ignitability and reactivity due to metallic sodium."

During the field inspection of the ISA storage unit, I was told that NaK was stored at ISA. CHPRC showed us a color photo of the drum and its contents showing the NaK tubing was part of the drum contents. The photos showing the drum contents with the NaK metal tubing wrapped in plastic that appeared to be a polyethylene material. There is no verification/documentation that NaK (or sodium) is compatible with this plastic. Discussions with Mr. Harville, Greg LeBaron, and Tony McKarns verified the storage of NaK. DOE and CHPRC provided us with an email documenting discussions with Ecology on including the NaK waste stream in the new permit draft Rev 9. Ecology found no documentation of a permit modification request submitted to Ecology from FFTF to include the waste stream, NaK in the Rev 8C permit. FFTF was storing a hazardous waste that was not identified in their permit and

for which FFTF had not applied for a permit modification. During the inspection, I was told, "the tubes with NaK inside were never used" by Mr. Harville. Because the NaK tubes were never used, the waste is unlikely to be radioactively contaminated and therefore not mixed waste but a hazardous waste.

Permittee Response

NaK was not specifically identified in the permit at the time of the September 19 through 20, 2011, inspection; however in previous discussions Ecology was made aware of the presence of NaK. These discussions resulted in written concurrence by Ecology for storage of this alloy within the 400 Area WMU. A June 11, 2009, email from Ecology (Jeff Ayres) provided a response to a question from the permittees regarding authorization to store NaK. The Ecology regulator stated: "The NaK is essentially elemental sodium with some potassium alloyed to it. It exhibits the same physical properties and characteristics as elemental sodium and has the same waste codes. I understand that the amount of this sodium material is less than approximately 2 cups. As such, it is handled, treated, and stored identical to sodium (which is essentially what it is). The pressure transducers are basically sodium components and meet the description of the allowable components of the system that may be stored in the permitted facility. They are new and are not radiologically contaminated. The NaK alloy pressure components may be stored within the permitted areas of the 400 Area Waste Management Unit provided that they are stored in accordance with the safe storage procedures for sodium and the permit requirements."

There is no regulatory basis for requiring a permit modification prior to receiving a waste that has a waste code and is within the waste storage, treatment, and/or disposal volumes identified in the Part A Form and that can be safely managed in accordance with the waste analysis plan contained in the Hanford Facility RCRA Permit. NaK contains elemental sodium and the waste exhibits a similar hazard and is compatible with other sodium waste. It is thus a waste type of sodium specifically identified in the Part A. Nevertheless, the quarterly class 1 modification package submitted on July 6, 2012, included the addition of NaK to the permit. The modifications were approved in Ecology letter 12-NWP-139 dated August 20, 2012.

In regards to the radiological status of the equipment containing NaK, CHPRC Radiological Control personnel have determined that the components do not qualify for radiological release regardless of their unused condition due to potential for radioactive contamination from handling and storage. Therefore, these items are classified as mixed waste and any disposition such as treatment and/or disposal must be via a facility with a license to manage mixed waste (see DOE Order 458.1). The NaK waste is currently being managed in accordance with a profile that identifies it as mixed waste consistent with DOE Order 458.1.

In regards to NaK components and its eventual disposal at the reporting requirements under the TPA are provided in the Milestone M-026-1 series for the Hanford Site Mixed Waste Land Disposal Restrictions Reports. The reports identify the waste at the 400 WMU and the proposed treatment pathway of deactivation and conversion to sodium hydroxide with treatment is planned

to begin after 2015. As noted in the responsiveness summary for the 400 Area WMU, "Ecology has approved this LDR report."

Regarding Alleged Noncompliance 3 – Land Disposal Restrictions

Allegation:

NaK waste has been stored at the 400 Area WMU ISA since June 2009. The waste has been stored for more than one year. The DOE 2010 Hanford Site Mixed Waste Disposal Restriction Summary Report, DOE/RL 2011-31, Revision 0, does not report the required waste stream and data information of this LDR dangerous waste or the reasons why this waste is allowed to be stored greater than one year. The M-26 LDR report is to establish a schedule of compliance for treatment, which would provide relief to USDOE from the LDR storage requirements at 40 CFR 268.50, incorporated by reference by WAC 173-303-140. This authority is limited to mixed waste. If NaK tubing is not a mixed waste, any M-26 entries must be exclusive of these items.

Permittee Response

The Permittees assert that applicable Land Disposal Regulations (LDR) requirements have been and are being met and that the NaK is included in annual LDR summary reports. As noted in Ecology's response to public review comments on the proposed 400 Area WMU permit modification to Hanford Facility RCRA Permit, Rev. 8C: "LDR Requirements applicable to the 400 Area WMU are limited to the record keeping requirements in WAC 173-303-380(1)(o) and LDR reporting requirements under the Hanford Federal Facility Agreement and Consent Order."

The reporting requirements under Hanford Federal Facility Agreement and Consent Order (known as the TPA) are provided in the TPA Action Plan Milestone M-026-1 series for the Hanford Site Mixed Waste Land Disposal Restrictions Reports. The reports identify the waste at the 400 WMU and the proposed treatment pathway of deactivation and conversion to sodium hydroxide with treatment planned to begin after 2015. Because it is mixed waste and a treatment pathway has been identified in the TPA, storage of this waste for more than one year is allowed. As noted in the responsiveness summary for the 400 Area WMU, "Ecology has approved this LDR report".

As noted in the Permittee Response to Alleged Noncompliance 2 above, the permittee considers the NaK components in the ISA (Interim Storage Area) to be mixed waste. The LDR report does not specifically identify NaK because the report identifies 400 Area WMU wastes in a more general manner. For example, Table 1-1 in the 2011 copy of the LDR Report simply describes the waste as "mixed waste generated from Hanford activities, primarily from the deactivation of the Fast Flux Test Facility." This description fits NaK and other sodium mixed wastes.

Regarding Alleged Noncompliance 4 – Permit Modification for 432A

Allegation:

FFTF personnel failed to submit a class 2 permit modification for a change in the ISA DWMU. Email exchanges between Ecology and DOE, Mike Collins, state "Building 432 A located within the ISA DWMU is not authorized for mixed waste management." FFTF was claiming that a permit modification to the 400 Area WMU was the reason for the change permit authorization for Building 432 A. According to Permit Condition I.C.3.a and WAC 173-303¬-830(4)(b)(i), Appendix I, F Containers 2 a, modification of a container unit without increasing the capacity of the unit is a Class 2 permit modification. Ecology found no documentation of a Class 2 permit modification request submitted to Ecology from DOE. The Permittees had not applied for a class 2 permit modification.

Permittee Response

Building 432A was never intended to be authorized for dangerous waste management and has not been used for the storage of dangerous waste. The permittees assert that the modification to authorize 432A to manage mixed waste was an inadvertent typographical error which has subsequently been corrected.

The Hanford Facility RCRA Permit issued in 2007 by Ecology, stated the following: "Interim Storage Area, 4718 (ISA) (including Building 432A). The ISA consists of 156 x 247 meters (513 x 483 feet) totally fenced area with perimeter lighting that has been designated for above ground dry cask storage of spent fuel. A concrete pad located within the ISA, which measures 27 x 37 meters (90 x 120 feet), was used for dry cask storage, but will not necessarily be used for mixed waste management. The remainder of the ISA surface is gravel. The ISA is generally flat, but graded to drain in accordance with the general drainage plan for the FFTF PPA. One structure, is open on the east side, and is located on the west fence line of the ISA, but will not be used for mixed waste management."

This language remained unchanged until the Class 1 modification package for the quarter ending June 30, 2009, was submitted to Ecology via letter 09-EMD-0095. The last sentence in the ISA description provided above omitted the word "not" in the text box. The change was not denoted with strikeout text as is typical of an intentional language modification. To further confirm that this was an inadvertent typographical error, it is noted that the same change package has the following language in condition III. 16.o.1.j: "The Permittees will not place wastes in the open-sided structure (Building 432A) within the ISA identified in the Unit Description above." The error was corrected by re-inserting the missing "not" in the Class 1 permit modification package for the quarter ending December 31, 2011 that was subsequently approved by Ecology. Corrections of typographical errors are considered Class 1 permit modifications.

Regarding Alleged Noncompliance – 5 Operating Record Location

Allegation:

Permit Condition 11.1.1 specifically states: "... A TSD unit-specific Operating Record will be maintained for each TSD unit at a location identified in Parts III, V, and VI of this Permit..." FFTF personnel failed to submit a class 1 permit modification for a change in the location of the facility operating record. During the inspection, Ecology was directed to MO-294 building for review of FFTF records. This location was not at the 400 Area WMU. According to Permit Condition I.C.3.a and WAC 173-303-830(4)(b)(i), Appendix I, B General Facility Standards, 3, changes in procedures for maintaining the operating record is a Class 1 permit modification. Ecology found no documentation of a Class 1 permit modification submittal to Ecology from USDOE to change the location for the unit specific Operating Record. The Permittees had not provided a class 1 permit modification.

Permittee Response

WAC 173-303-380 provides requirements for facility recordkeeping. In this context, the facility is considered the entire Hanford Site. However, as noted in the inspection report, the Permit calls for unit-specific operating records to be maintained. When this issue was raised during the compliance inspection, the Permittees reviewed relevant Permit conditions including I.E.10.b, which stipulates that certain records be retained at the TSD unit or at other locations approved by Ecology. The Permit condition also states that the information may be retained on electronic media.

This issue was discussed during the April 26, 2012, FFTF TPA Project Manager Meeting and Ecology staff provided approval of MO-294 as the unit specific file location for the 400 Area WMU. The approval was documented in the meeting minutes which were placed in the 400 Area WMU administrative record. The Permittees maintain that this satisfies the permit and regulatory requirements for location of unit-specific records.

Included with this letter are the following enclosures: Enclosure 1) 400 Area WMU inspection response time line; Enclosure 2) Responses to alleged areas of non-compliance; Enclosure 3) Responses to the areas of concern, and Enclosure; 4) Examples of the weekly inspection checklists; 5) April 26, 2012, FFTF TPA Project Manager Meeting Minutes.

If you have any questions, please contact me, or your staff may contact Ray J. Corey, Assistant Manager for Safety and Environment, on (509) 376-0108.

Sincerely,

Matt McCormick
Manager

ESQ:ACM

Enclosures

cc w/encls:
J. L. Boller, EPA
K. A. Conaway, Ecology
Ecology NWP Library (Hardcopy)
Environmental Portal, LMSI, A3-95 (CD ROM)
Administrative Record, TSD: S-4-2 (CD ROM)
HF Operating Record (J. K. Perry, MSA, H7-28) (CD ROM)

cc w/o encls:
D. B. Bartus, EPA
L. T. Blackford, CHPRC
G. Bohnee, NPT
F. W. Bond, Ecology
A. E. Cawrse, CHPRC
S. L. Dahl, Ecology
B. J. Dixon, CHPRC
S. G. Harris, CTUIR
S. Hudson, HAB
M. N. Jaraysi, CHPRC
R. Jim, YN
J. B. Price, Ecology
A. L. Prignano, Ecology
F. A. Ruck III, CHPRC
J. R. Seaver, CHPRC

Enclosure 1
13-ESQ-0058

400 AREA WASTE MANAGEMENT UNIT
INSPECTION RESPONSE TIMELINE

Date	Issue/Action
April 10, 2009	Letter DOE to Ecology, dated April 10, 2009, "Class 1 Modifications to the Hanford Facility Resource Conservation and Recovery Act Permit, Quarter Ending March 31, 2009," requesting to change Addendum I inspection frequency from "weekly" to semi-annually." (page 321 of 336)
April 22, 2009	Letter Ecology to DOE, dated April 22, 2009, "RE: Letter for United States Department of Energy, dated April 10, 2009, *Class 1 Modifications to the Hanford Facility Resources Conservation and Recovery Act Permit (Quarter Ending March 31, 2009),* approved the 400 Area WMU inspection frequency change from "weekly" to "semi-annually."
September 19 and 20, 2011	Ecology-EPA performed a TSD Unit Inspection at the 400 Area WMU.
September 20, 2011 thru November 8, 2011	Ecology requested information on changes to inspection frequencies, argon gas blanket, photographs of ISA storage facility, request for operating procedures for both the FSF and ISA, photograph of NaK transducers within a 55-gallon drum within the ISA, and copies of inspection documents.
November 8, 2011 thru March 2013	Series of calls from Ecology on issues related to inspection frequency and NaK storage.
November 15, 2011	Received copy of Letter from EPA to Ecology dated November 15, 2011 stating that Ecology did not act properly under WAC 173-303-830 by changing the inspection frequency using a "Class 1 prime" instead of "Class 2" which is subject to public review. This includes changing container inspections from "weekly" to "semi-annual", changes to emergency equipment, and changes to the Contingency Plans.
December 19, 2011 thru December 29, 2011	CHPRC prepared draft Class 2 Permit Modification for issue pertaining to inspection frequency and contingency plan.
January 5, 2012	CHPRC received call from Ecology requesting a visit to the 400 Area WMU/ISA.
January 9, 2012	DOE/CHPRC setup Ecology visit to 400 Area WMU/ISA for January 11, 2012.
January 11, 2012	Ecology Management visited the 400 Area WMU/ISA. The ISA Storage Module was opened for Ecology to view the containers that are presently being stored. After a brief discussion with DOE/CHPRC Ecology stated that they were going back to talk about the inspection frequency issues raised by the EPA in there November 15, 2011 letter to Ecology. Ecology requested copies of photographs of the ISA. Copies provided to Ecology on January 11, 2012. (Note: These are the same photographs provided to Ecology during the EPA-Ecology 400 Area WMU Inspection on September 19 and 20, 2011).
February 21, 2012	DOE receives letter 12-NWP-024 from Ecology rejecting the 2009 Class 1' modification package and returning inspection frequency to weekly.
March 5, 2012	Weekly inspections resume at the 400 WMU.
April 3, 2012	Letter from Matthew McCormick, United States Department of Energy to J. A. Hedges, Ecology, *"Proposed Class 2 Resource Conservation and Recovery Act (RCRA) Permit Modification and Request for Temporary Authorization at the Hanford Facility 400 Area Waste Management Unit (TSD: S-4-2)".*

Date	Issue/Action
April 23, 2012 - June 21, 2012	Public comment period on Class II permit modification package for 400 WMU: • Returns inspection frequency to weekly • Documents current emergency equipment for the 400 WMU.
June 28, 2012	Ecology Inspection of the 400 Area WMU of stationary emergency equipment in the FSF and the portable fire extinguisher that was carried in government vehicles during inspections and not stored within the building. Ecology has concerns about the fire extinguisher being attached to the gate and not located at the connex storage box. Ecology inspected the Dewar storage tank pad where the argon gas is monitored and reading taken. Argon gas is used in the FSF storage boxes as an inert blanket over the sodium that is stored with in the FSF storage boxes.
July 31, 2012 and September 5, 2012	Ecology transmits approval letters for the Class II modification (letters 12-NWP-130 and 12-NWP-146).
May 8, 2013 through June 4, 2013	DOE/CHPRC received various Ecology emails requesting information on the activities at the 400 Area WMU based on the inspection that was performed in September 2011. The following are the information requests: • Questions on Dewar tank monitor readings (5-8-2013) • Issue on individual that was referenced that does not work at 400 Area WMU (5-15-2013) • Questions on status of 432A building (5-21-2013) • What position in the DWTP is the power operator (5-23-2013) • Question on status of 423A Building (5-30-2013) *Note: Email dated 6-4-2013 to Ecology stated that the response to this same question was provided to Ecology dated 5-21-2013 – Bullet #3* • Questions on training for using fire extinguishers at 400 Area WMU (5-30-2013).
June 13, 2013	Ecology Information Meeting on Draft 400 Area WMU Inspection Report. Ecology identified 5 non-compliances and 6 concerns.
June 18, 2013	DOE received Ecology Certified Mail of the 400 Area Inspection Report. DOE is to respond in 45 days of receipt of Ecology letter. Inspection conclusions based on observations as of 9/2011. Inspection information gathering appears to have occurred up to June, 2013. Ecology inspection report does not reflect actions taken or some information provided during the intervening period.
June 19, 2013	RL and CHPRC received the Ecology Certified Mail of the 400 Area Inspection Report.

Permittee Responses to Areas of Concern Identified in Ecology Report of September 19-20, 2011 Inspection of 400 Area Waste Management Unit

1) Alleged Noncompliance - Inspections

Permit Condition I.E.1
The Permittees will comply with all conditions of this Permit, except to the extent and for the duration, such noncompliance is authorized by an emergency Permit issued under WAC 173-303-804. Any Permit noncompliance other than noncompliance authorized by an emergency Permit constitutes a violation of Chapter 70.105 RCW, as amended, and is grounds for enforcement action, Permit termination, modification or revocation and reissuance of the Permit, and/or denial of a Permit renewal application.

Permit Condition II.O.1
The Permittees will inspect the Facility to prevent malfunctions and deterioration, operator errors, and discharges, which may cause or lead to the release of dangerous waste constituents to the environment, or threaten human health. Inspections must be conducted in accordance with the provisions of WAC 173-303-320(2).

Permit Condition III.16.H and Addendum I Inspections
The Permittees will perform inspections of the 400 Area WMU according to Addendum 1, Inspection Plan for inspecting all monitoring equipment, safety, and emergency equipment, security devices, and operating and structural equipment that help prevent, detect, or respond to hazards to the public health or the environment pursuant to the requirements of WAC 173303-320.

FFTF personnel failed to perform weekly inspections at the FSF and ISA WMU storage areas. FFTF personnel were performing semi-annual inspections at FSF and ISA although the permit inspection schedule requires a weekly frequency. Inspection logs reviewed at time of inspection documented semi-annual inspection frequency, not weekly. FFTF was claiming that a permit modification to Addendum I was the reason for the change in inspection frequency from weekly to semi-annual. According to Permit Condition I.C.3.a and WAC 173-303-830(4)(b)(i), Appendix I, B General Facility Standards 4, *changes infrequency or content of inspection schedules* is a Class 2 permit modification. Ecology found no documentation of a Class 2 permit modification request submitted to Ecology from USDOE. FFTF had not submitted a class 2 modification request to Ecology.

Upon receipt of this compliance report, FFTF will return to conducting weekly inspections at the 400 WMU storage units, FSF and ISA. When you return the enclosed Compliance Certificate to Ecology, include one or more inspection logs showing that inspections are properly completed per your permit inspection schedule, Addendum I. Provide any other documentation that verifies the return to a weekly inspection frequency.

Permittee Response

The permittees were performing inspections in accordance with the conditions of Addendum I of the Permit that were in effect at the time of Ecology's compliance inspection. Per Permit condition I.E.2 of the Permit, "compliance with this Permit during its term constitutes compliance at those areas subject to this Permit for the purpose of enforcement with WAC 173-303-140, WAC 173-303-180, WAC 173-303-280 through -395, WAC 173 303-600 through -680, WAC 173-303-810, and WAC 173-303-830." A Class 1 permit modification was submitted to Ecology on April 10, 2009, requesting a reduction in

inspection frequency for the two container storage areas from "weekly" to "semi-annual." On April 22, 2009, DOE received a concurrence letter from Ecology approving the reduction in inspection frequency. Additional permit modifications to support this inspection frequency reduction were concurred by Ecology on August 19, 2009, for the quarter ending June 30, 2009.

After the inspection and subsequent to Ecology approval of the Class 1 permit modification request to reduce the inspection frequency on April 22, 2009, Ecology determined that a Class 2 permit modification that includes public review and comment was needed. The Permittees have been compliant with the approved permit modification. In Ecology's letter, 12-NWP-024 dated February 21, 2012, Ecology rescinded the previously approved Class 1 permit modification package and stipulated that the inspection frequency be returned to "weekly" inspections. The weekly inspections were resumed on March 5, 2012. A Class 2 modification package was submitted to Ecology on April 3, 2012, to re-instate the weekly inspection frequency. Ecology approved the permit modification via letter 12-NWP-130, dated July 31, 2012.

2) Alleged Noncompliance -Storage of Waste Containing NaK

Permit Condition III 16.B.l General Waste Management
The Permittees are authorized to accept, according to the waste acceptance procedure documented in Addendum B, Section B.2, mixed debris generated/rom demolition and decommissioning of the FFTF reactor system containing or contaminated with residual elemental sodium and sodium hydroxide. The Permittee will store these waste in the ISA.
Permit Condition III.16.B.O.1.b, Container Management Standards
The Permittees shall ensure that all containers are constructed of carbon steel or stainless steel, or other materials compatible with metallic sodium and sodium hydroxide.

Permit Condition I.E.20 Other Information
Whenever the Permittees become aware that they have/ailed to submit any relevant/acts in a Permit application, closure plan, or post-closure plan, or submitted incorrect information in a Permit application, closure plan, or post-closure plan, or in any report to Ecology, the Permittees will promptly submit such facts or corrected information.

Since June 2009, 400 Area WMU ISA was storing a dangerous waste, NaK (thirteen pressure transducers containing a sodium potassium alloy), that was not included in Rev 8C permit, and for which 400 Area WMU had not submitted a request for a permit modification. Permit Addendum B, Waste Analysis Plan, section B.l.2, Identification and Classification of Waste states "Waste types not specifically identified in Addendum A, Part A Form are prohibited from storage in the 400 Area WMU." Section B.l.l, Descriptions of unit processes and Activities states "Sodium contamination is associated with the sodium used as coolant in the FFTF reactor." Section B.3, Selecting Waste Analysis Parameters, states, "Sodium is the material of interest to support safe storage o/the waste (including contaminated piping, appurtenances, and debris) at the 400 Area WMU, Sodium is a single element waste (i.e., no other chemical contamination) as it was contained in closed-loop cooling systems throughout FFTF reactor operations." Permit Addendum F, Preparedness and Prevention, section F.3.2, Precautions for Handling Ignitable or Reactive Waste and Mixing of incompatible Waste states Metallic sodium, in a solid form due to its high melting point (980 C), is the only waste stored at the 400 Area WMU, This waste, which is a mixed waste, exhibits the characteristics of ignitability and reactivity due to metallic sodium."

During the field inspection of the ISA storage unit, I was told that NaK was stored at ISA. CHPRC showed us a color photo of the drum and its contents showing the NaK tubing was part of the drum contents. The photos showing the drum contents with the NaK metal tubing wrapped in plastic that appeared to be a polyethylene material. There is no verification/documentation that NaK (or sodium) is compatible with this plastic. Discussions with Mr. Harville, Greg LeBaron, and Tony McKarns verified the storage of NaK. USDOE and CHPRC provided us with an email documenting discussions with Ecology on including the NaK waste stream in the new permit draft Rev 9. Ecology found no documentation of a permit modification request submitted to Ecology from FFTF to include the waste stream, NaK in the Rev 8C permit. FFTF was storing a hazardous waste that was not identified in their permit and for which FFTF had not applied for a permit modification. During the inspection, I was told, "the tubes with NaK inside were never used" by Mr. Harville. Because the NaK tubes were never used, the waste is unlikely to be radioactively contaminated and therefore not mixed waste but a hazardous waste.

Upon receipt of this compliance report, FFTF will submit to Ecology a request for a permit modification for addition of NaK in the Rev 8C permit in accordance with Permit Condition I.C. The modification request will include all changes to the appropriate areas of the 400 Area WMU permit conditions and addendums. FFTF will include in this submittal, documentation that the NaK tubing is truly a mixed waste. FFTF will also submit documentation that the NaK tubing can feasibly be converted to sodium hydroxide for use at the Waste Treatment Plant (WTP) once it is operational in 2019. Additionally, the facility can cease managing the NaK containing debris in the ISA either by disposing of it off-site or moving it to some other storage area that has appropriate authorization.

Permittee Response

NaK was not specifically identified in the permit at the time of the September 19-20, 2011 inspection, however in previous discussions Ecology was made aware of the presence of NaK. These discussions resulted in written concurrence by Ecology for storage of this alloy within the 400 Area WMU. A June 11, 2009, email from Ecology (Jeff Ayres) provided a response to a question from the permittees regarding authorization to store NaK. The Ecology regulator stated: "*The NaK is essentially elemental sodium with some potassium alloyed to it. It exhibits the same physical properties and characteristics as elemental sodium and has the same waste codes. I understand that the amount of this sodium material is less than approximately 2 cups. As such, it is handled, treated, and stored identical to sodium (which is essentially what it is). The pressure transducers are basically sodium components and meet the description of the allowable components of the system that may be stored in the permitted facility. They are new and are not radiologically contaminated. The NaK alloy pressure components may be stored within the permitted areas of the 400 Area Waste Management Unit provided that they are stored in accordance with the safe storage procedures for sodium and the permit requirements.*"

There is no regulatory basis for requiring a permit modification prior to receiving a waste that has a waste code and is within the waste storage, treatment, and/or disposal volumes identified in the Part A Form and that can be safely managed in accordance with the waste analysis plan contained in the Hanford Facility RCRA Permit. NaK contains elemental sodium and the waste exhibits a similar hazard and is compatible with other sodium waste. It is thus a waste type of sodium specifically identified in the Part A. Nevertheless, the quarterly class 1 modification package submitted on July 6, 2012, included the addition of NaK to the permit. The modifications were approved in Ecology letter 12-NWP-139 dated August 20, 2012.

In regards to the radiological status of the equipment containing NaK, CHPRC Radiological Control personnel have determined that the components do not qualify for radiological release regardless of their unused condition due to potential for radioactive contamination from handling and storage. Therefore,

these items are classified as mixed waste and any disposition such as treatment and/or disposal must be via a facility with a license to manage mixed waste (see DOE Order 458.1). The NaK waste is currently being managed in accordance with a profile that identifies it as mixed waste consistent with DOE Order 458.1.

In regards to NaK components and its eventual disposal at the reporting requirements under the TPA are provided in the Milestone M-026-1 series for the Hanford Site Mixed Waste Land Disposal Restrictions Reports. The reports identify the waste at the 400 WMU and the proposed treatment pathway of deactivation and conversion to sodium hydroxide with treatment is planned to begin after 2015. As noted in the responsiveness summary for the 400 Area WMU, "Ecology has approved this LDR report."

3) Alleged Noncompliance 3 - Land Disposal Restrictions

Permit Condition III.16.J.2.a Land Disposal Restrictions Requirements
The Permittees will ensure a schedule of compliance and any applicable associated work requirements are included in the land disposal restrictions report required by the HFFACO Milestone M-26, incorporated by reference by Permit Condition II.0 for treatment and/or acquisition of treatment capacity for wastes which are or are expected to be stored in the 400 Area WMU container storage units.

WAC 173-303-140 (1)(a) Land disposal restrictions
The purpose of this section is to encourage the best management practices for dangerous waste according to the priorities of RCW 70.105.150 which are, in order of priority: (i) Reduction; (ii) Recycling; (iii) Physical, chemical, and biological treatment; (iv) Incineration; (v)Stabilization and solidification; and (vi) Landfill

NaK waste has been stored at the 400 Area WMU ISA since June 2009. The waste has been stored for more than one year. The USDOE 2010 Hanford Site Mixed Waste Disposal Restriction Summary Report, DOE/RL 2011-31, Revision 0, does not report the required waste stream and data information of this LDR dangerous waste or the reasons why this waste is allowed to be stored greater than one year. The M-26 LDR report is to establish a schedule of compliance for treatment, which would provide relief to USDOE from the LDR storage requirements at 40 CFR 268.50, incorporated by reference by WAC 173-303-140. This authority is limited to mixed waste. If NaK tubing is not a mixed waste, any M-26 entries must be exclusive of these items.

Upon receipt of this noncompliance report, FFTF will submit to Ecology documentation explaining why NaK waste (if truly a mixed waste) is being stored for more than one year including the required waste stream and data information that would be part of the Hanford Site Mixed Waste Disposal Restriction Summary Report.

Permittee Response

The Permittees assert that applicable Land Disposal Regulations (LDR) requirements have been and are being met and that the NaK is included in annual LDR summary reports. As noted in Ecology's response to public review comments on the proposed 400 Area WMU permit modification to Hanford Facility RCRA Permit, Rev. 8C: "LDR Requirements applicable to the 400 Area WMU are limited to the record keeping requirements in WAC 173-303-380(1)(o) and LDR reporting requirements under the Hanford Federal Facility Agreement and Consent Order. "

The reporting requirements under Hanford Federal Facility Agreement and Consent Order (known as the TPA) are provided in the TPA Action Plan Milestone M-026-1 series for the Hanford Site Mixed Waste Land Disposal Restrictions Reports. The reports identify the waste at the 400 WMU and the proposed treatment pathway of deactivation and conversion to sodium hydroxide with treatment is planned to begin after 2015. As noted in the responsiveness summary for the 400 Area WMU, "Ecology has approved this LDR report"

As noted in the Permittee Response to Alleged Noncompliance 2 above, the permittee considers the NaK components in the ISA (Interim Storage Area) to be mixed waste. The LDR report does not specifically identify NaK because the report identifies 400 Area WMU wastes in a more general manner. For example, Table 1-1 in the 2011 copy of the LDR Report simply describes the waste as "mixed waste generated from Hanford activities, primarily from the deactivation of the Fast Flux Test Facility." This description fits NaK and other sodium mixed wastes.

4) Alleged Noncompliance - Permit Modification for 432A

Permit Condition I.C.3.a Modifications
Except as provided otherwise by specific language in this Permit, the Permit modification procedures of WAC 173-303-830(2), (3), and (4) will apply to modifications or changes in design or operation of the facility, or any modification or change in dangerous waste management practices covered by this Permit.

FFTF personnel failed to submit a class 2 permit modification for a change in the ISA DWMU. Email exchanges between Ecology and USDOE, Mike Collins, state "Building 432 A located within the ISA DWMU is not authorized for mixed waste management." FFTF was claiming that a permit modification to the 400 Area WMU was the reason for the change permit authorization for Building 432 A. According to Permit Condition I.C.3.a and WAC 173-303-830(4)(b)(i), Appendix I, F Containers 2 a, modification of a container unit without increasing the capacity of the unit is a Class 2 permit modification. Ecology found no documentation of a Class 2 permit modification request submitted to Ecology from USDOE. The Permittees had not applied for a class 2 permit modification.

Upon receipt of this compliance report, FFTF will submit to Ecology a request for a permit-modification for a change in the ISA DWMU with the dangerous waste authorization for Building 432 A in the Rev 8C permit in accordance with Permit Condition I.C. The modification request will include all changes to the appropriate areas of the 400 Area WMU permit conditions and addendums.

Permittee Response

Building 432A was never intended to be authorized for dangerous waste management and has not been used for the storage of dangerous waste. The permittees assert that the modification to authorize 432A to manage mixed waste was an inadvertent typographical error which has subsequently been corrected.

The Hanford Facility RCRA Permit issued in 2007 by Ecology, stated the following: "*Interim Storage Area, 4718 (ISA) (including Building 432A). The ISA consists of 156 x 247 meters (513 x 483 feet) totally fenced area with perimeter lighting that has been designated for above ground dry cask storage of spent fuel. A concrete pad located within the ISA, which measures 27 x 37 meters (90 x 120 feet), was used for dry cask storage, but will not necessarily be used for mixed waste management. The remainder of the ISA surface is gravel. The ISA is generally flat, but graded to drain in accordance with the general drainage plan for the FFTF PPA. One structure, is open on the east side, and is located on the west fence line of the ISA, but will not be used for mixed waste management.*"

This language remained unchanged until the Class 1 modification package for the quarter ending June 30, 2009, was submitted to Ecology via letter 09-EMD-0095. The last sentence in the ISA description provided above omitted the word "not" in the text box. The change was not denoted with strikeout text as is typical of an intentional language modification. To further confirm that this was an inadvertent typographical error, it is noted that the same change package has the following language in condition III.16.o.1.j: "*The Permittees will not place wastes in the open-sided structure (Building 432A) within the ISA identified in the Unit Description above.*" The error was corrected by re-inserting the missing "not" in the Class 1 permit modification package for the quarter ending December 31, 2011 that was subsequently approved by Ecology. Corrections of typographical errors are considered Class 1 permit modifications.

5) Alleged Noncompliance - Operating Record Location

Permit Condition III.16.D.1 Recordkeeping and Reporting
The Permittees will place the following into the Hanford Facility Operating Record, 400 Area WMU File required by Permit Condition II.1.1 [WAC 173-303-380]

Permit Condition 11.1.1 specifically states: "... A TSD unit-specific Operating Record will be maintained for each TSD unit at a location identified in Parts III, V, and VI of this Permit..." FFTF personnel failed to submit a class 1 permit modification for a change in the location of the facility operating record. During the inspection, Ecology was directed to MO-294 building for review of FFTF records. This location was not at the 400 Area WMU. According to Permit Condition I.C.3.a and WAC 173-303-830(4)(b)(i), Appendix I, B General Facility Standards, 3, changes in procedures for maintaining the operating record is a Class 1 permit modification. Ecology found no documentation of a Class 1 permit modification submittal to Ecology from USDOE to change the location for the unit specific Operating Record. The Permittees had not provided a class 1 permit modification.

> ***NOTE: In Permit Condition III.16.D.1, Permit Condition II.1.2 is a typo in the permit. It is Permit Condition II.1.1. There is no Permit Condition II.1.2. The language in the 400 Area WMU unit piece needs corrected in the permit.***

Upon receipt of this compliance report, FFTF will submit to Ecology documentation that the Permittee has put into effect a Class 1 modification listed in Appendix I for a change in location of the 400 Area WMU operating record to be maintained at MO-294 in the Rev 8C permit in accordance with Permit Condition II.1.1 and I.C. The modification will include all changes to the appropriate areas of the 400 Area WMU permit conditions and addendums.

Permittee Response

WAC 173-303-380 provides requirements for facility recordkeeping. In this context, the facility is considered the entire Hanford Site. However, as noted in the inspection report, the Permit calls for unit-specific operating records to be maintained. When this issue was raised during the compliance inspection, the Permittees reviewed relevant Permit conditions including I.E.10.b, which stipulates that certain records be retained at the TSD unit or at other locations approved by Ecology. The Permit condition also states that the information may be retained on electronic media.

This issue was discussed during the April 26, 2012 FFTF TPA Project Manager Meeting and Ecology staff provided approval of MO-294 as the unit specific file location for the 400 Area WMU. The approval was documented in the meeting minutes which were placed in the 400 Area WMU administrative record. The Permittees maintain that this satisfies the permit and regulatory requirements for location of unit-specific records.

PERMITTEE RESPONSE TO AREAS OF CONCERN IDENTIFIED IN ECOLOGY REPORT OF SEPTEMBER 19-20, 2011 INSPECTION OF 400 AREA WASTE MANAGEMENT UNIT

Ecology Concern 1 – Disposition of Wastes Currently Stored in 400 Area WMU

Bulk sodium used as coolant in the FFTF reactor has been suggested it can be used for WTP feed preparation with a conversion to sodium hydroxide. Ongoing storage of equipment/components with sodium contamination in the FSF and ISA does not seem to be acceptable or achievable for conversion to sodium hydroxide. For the FSF, 3.7 gallons of radiological contaminated sodium in each CCP. The two metal boxes holding the CCPs has an estimated volume of sodium at less than 200 gallons each (400 gallons total). At the time of this inspection, the ISA had 15 drums of sodium contaminated debris waste that contained around 32 gallons of sodium and the NaK tubing is estimated having less than 2 cups of sodium. The last receipt of waste in the FSF was August 15, 2006 and the last receipt of waste in the ISA was June 2009. There is a growing concern whether or not speculative accumulation is being conducted in lieu of required treatment. This would be a practice not complaint with 40 CFR 268.50, incorporated by reference by WAC 173-303-140. This section allows storage of restricted wastes that have not been treated "solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal." The existing operating permit does not adequately address justification for current waste storage of sodium contaminated debris waste in the ISA and FSF or the rationale for ensuring that these wastes will be converted to sodium hydroxide for future use.

Permittee Response to Concern 1

As part of the permitting process for the 400 Area Waste Management Unit (400 Area WMU), public review opportunities were provided under the State Environmental Policy Act (SEPA) and Washington Administrative Code (WAC) 173-303 Dangerous Waste Regulations. Information provided by Ecology for those reviews acknowledges that the 400 Area WMU is intended for long term storage of sodium and sodium contaminated waste. Ecology notes in their Responsiveness Summary to public comments that 'the waste will be removed from permitted storage areas once practical treatment options for the waste have been developed."[1] The treatment options were also considered under the National Environmental Policy Act (NEPA) in the DOE's Draft Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS, DOE/EIS-319, October 2009) and the Final TC&WM EIS (DOE/EIS-0319, November 2012), both prepared with Ecology as a "cooperating agency." The treatment options will be selected in the TC&WM EIS Record of Decision (ROD), which has been drafted for DOE's consideration, but has not been finalized and issued. However, upon the finalization and issuance of the TC&WM EIS ROD, the treatment options will be further defined through Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Action Plan Milestone M-092-09 which calls for establishing "milestones and/or target dates if needed for acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal of Hanford site sodium".

The Tri-Party Agreement Milestone M-092-09 Change Package request provides additional context regarding plans for sodium disposition as follows:

> "The existing interim milestone due date was established assuming the FFTF Closure Project would proceed with sodium disposition activities and facilities decommissioning and demolition (D&D) directly following the completion of facilities deactivation. The current project planning is for the

[1] Ecology Responsiveness Summary for the 400 Area Waste Management Unit, dated October 22, 2007

FFTF to be placed in a long-term surveillance and maintenance mode following completion of deactivation activities and to defer the sodium disposition and D&D activities.

The extension to the interim milestone due date will insure that the scope of the milestone is consistent with the FFTF Closure Project baseline and the Tank Closure/Waste Management EIS and corresponding ROD. Included in the EIS is an analysis of the option for the disposition of the sodium coolant used at FFTF and the Hallam and SRE sodium stored in the 200 West Area. Deferring the milestone would not be pre-decisional to the National Environmental Policy Act process."[2]

It is presumed that speculative accumulation as used in this concern is not within the context of WAC 173-303-016(5)(d), but rather in the context of the prohibition for storage of land disposal restriction (LDR) waste except for the purpose of accumulating sufficient quantities to facilitate proper recovery, treatment, or disposal. As noted in the Ecology Responsiveness Summary to public review comments, "LDR Requirements applicable to the 400 Area WMU are limited to the record keeping requirements in WAC 173-303-380(1)(o) and LDR reporting requirements under the Hanford Federal Facility Agreement and Consent Order."[3]

The LDR reporting requirements under the Tri-Party Agreement Action Plan are provided in the Milestone M-026-1 series for the Hanford Site Mixed Waste Land Disposal Restrictions Reports. These LDR reports in recent years include the waste at the 400 Area WMU and identify the proposed treatment pathway of deactivation and conversion to sodium hydroxide with treatment planned to begin after 2015. As noted in the Ecology Responsiveness Summary for the 400 Area WMU, "Ecology has approved this LDR report"[4]

The 2009 5-year comprehensive LDR report and the annual summary report for 2011, which have been approved by Ecology, states for the 400 Area WMU treatability group that the waste will be treated to "produce sodium hydroxide for use as a product in the Hanford tank waste vitrification process." It is suggested that if Ecology has concerns about this, it should be raised in the LDR forum.

Ecology Concern 2 – Operating Conditions and Emergency Equipment

The existing permit authorization for the 400 Area WMU DWMUs issued in August 2007, does not adequately describe that there are two active waste management units (FSF and ISA) in an inactive area of the facility. The FFTF facility has been "cold and dark" for four years, since 2009, creating significant operating changes. FSF has no lighting and to enter, one must have a flashlight. Dangerous waste inspections at FSF are conducted using "a flashlight and a mirror looking for cracks, leaks, and spills in the storage containers. Emergency equipment is staged or brought to the waste management units when work is performed. This is inconsistent with the requirements of having emergency equipment available at all times at the unit (ISA and FSF), regardless if work is scheduled or workers will be at the work site (WAC 173-303-350(2)(e)). A key concern is that there can be an emergency when work is not scheduled to be performed. The current permit language does not address procedures or requirements for first responders to be equipped with the unit specific emergency equipment.

The current permit requirements applicable to the FSF and ISA say "Emergency Response Kit" "is available in a government vehicle." It is intended for use when work is being conducted at the FSF or ISA. During the inspection at ISA and FSF Ecology asked the question of where was the emergency response kit and CHPRC

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[2] Letter 08-AMRC-0193, J.R. Franco, RL, to J.A. Hedges, Ecology, dated June 12, 2008 (reissued by DOE-RL June 25, 2008 signed by D.K. Brockman)

[3] Ecology Responsiveness Summary for the 400 Area Waste Management Unit, dated October 22, 2007

[4] Ibid.

staff was unsure if it was in a vehicle. There are no enforceable permit requirements that workers must arrive at ISA or FSF in a government vehicle or details of the contents of the emergency response kit. During the Ecology inspection, entry into the FSF is contingent having portable lighting equipment and an oxygen meter. Neither piece of equipment is specified in the emergency equipment section of the permit. Ecology believes there is no basis because of the permit complications of continuing to actively manage waste in a "cold and dark" facility. Emergency equipment should be located at dangerous waste management units on a consistent, ongoing basis, not when work crews are performing work at the unit. Lack of emergency equipment specific to those units when response workers arrive, can be problematic.

Permittee Response to Concern 2

The citation of "WAC 173-303-350(2)(e)" is incorrect, DOE believes that the correct citation for should be "WAC 173-303-350(3)(e)." It is presumed that Ecology's concern that the Permit that was used at the time of the inspection "does not adequately describe that there are two active waste management units (FSF and ISA)" is focused more on Fast Flux Test Facility (FFTF) facility status than on description of the two separate units. In the Part A Form, Section XI submitted by the Permittees and approved by Ecology clearly identifies the two waste storage areas in the 400 Area WMU. This information is provided in Part III Operating Units, Operating Unit 16,400 Area WMU, Addendum A, Part A Form of the Permit. The Addendum A, Part A Form, provides information about the shutdown and deactivation of systems at FFTF. In the Permit, Addendum F, Preparedness and Prevention, Section F.2.4 provides similar information on the status of FFTF.

The lack of permanent lighting does create operational challenges. However, current processes requiring personnel to have appropriate equipment such as flashlights to enter the FSF ensure that required functions can be performed safely and effectively. There is no regulatory requirement for container storage areas to be provided with permanent lighting.

Emergency equipment and processes have been established based on the unique hazards and conditions at the 400 Area WMU. Personnel that provide maintenance and inspections at the 400 Area WMU are trained to respond to those unique hazards or are escorted by someone who is trained. A Class 2 permit modification in 2012 addressed Ecology's concern over the location of the emergency response kit by requiring the kit to be staged at the unit. It should be noted, however, that standard practice is for personnel discovering a potential emergency to call for an emergency response. Emergency responders are equipped with significant amounts of available emergency equipment in accordance with DOE/RL 94-02, *Hanford Emergency Management Plan*.

Ecology Concern 3 – Lack of Fire Extinguisher at FSF

FFTF existing permit section J.4.2, Contingency Plan, states that a fire extinguisher is available at the ISA pad and that "portable Class D fire extinguishers are available for use to respond to fires at the ISA and FSF." During the inspection, there was one class D fire extinguisher at the ISA. There was no signage at the FSF entry area indicating the location of the fire extinguisher at the ISA. Additionally, the distance from FSF to ISA is too far away to conclude its practical use for a fire emergency at the FSF. A single fire extinguisher located at the ISA does not provide adequate protection for the FSF. If there were an emergency at the FSF, the need to have a worker retrieve the fire extinguisher at the ISA for the FSF emergency, would result in valuable time loss and poor protection at the FSF.

Permittee Response to Concern 3

Emergency response equipment was addressed in a Class 2 permit modification in 2012. (See approval letter 12-NWP-130, dated July 31, 2012 and letter 12-NWP-146, dated September 5, 2012). Class D fire extinguishers are now located at the ISA pad (inside the locked fenced area on the fence near the gate) and at the FSF building (adjacent to the entrance).

Ecology Concern 4 – Inspection of Argon Gas Pressure

The Argon (Cover Gas System) pressure monitoring system at FFTF that supports the FSF is monitored weekly but is not part of the weekly inspection schedule listed in Table I.1, Addendum I. The current permit requires that the CCP boxes at the FSF be covered with an inert gas (argon) to prevent contact of the metallic sodium with the water vapor in the air. The pressure monitoring and reporting function is at the Dewar pad, not at the FSF. During the inspection, Ecology was told that an abnormal gas pressure for the Argon Cover Gas System at FFTF causes the activation of the alarm at the Fire Water System Alarm Panel, C-676. C-676 alarm panel located at the FFTF Water Plant and the alarm is a buzzer and flashing indicator light, which also activates an automatic phone call list. As stated in Addendum I, Inspection Requirements, "the purpose of inspections are to prevent malfunctions and deterioration, operating errors, discharges, identify leaking containers, improperly stored containers, and degradation of containment and safety equipment and/or systems (e.g., inert gas pressure in feed line)." Section 1.1.1, Types of Inspections list "inert gas pressure in feed line to CCP boxes in the FSF" however, it is not included in the table 1.1 inspection schedule. Pressure monitoring of the argon gas system is safety equipment for FSF and needs to be included in the Permit and identified on Table 1.1.

Permittee Response to Concern 4

The original permit was issued in October 2007 has had this requirement for inspection of the argon gas pressure all along (initially in Addendum H then and later changed to Addendum I) within the inspection table that states: "Condition of concrete floor, container structural integrity, containers closed, inert gas pressure in feed line to large boxes, significant corrosion of containers, evidence of leaks, spills, accumulated liquids, container labels and markings in place, legible, and unobstructed." Also, the argon gas system is mentioned in permit condition III.16.O.1.e.

Inspection Frequency for the FSF container storage area was semi-annual at the time of the compliance inspection. Addendum I, Inspection Schedules, of the RCRA permit was changed through a Class 2 Hanford Facility RCRA Permit modification package in 2012, to return inspections to weekly.

Ecology Concern 5 – Closure Plan

Permit Condition III.16.K.1 states that the Permittees will close the 400 Area WMU Container Storage Units in accordance with Addendum H, Closure Plan. On review of the current permit closure plan, it does not appear to meet the complete requirements of a permit closure plan under WAC 173-303-610(3). As stated, "The approved closure plan will become a condition of any permit. The department's decision must assure that the approved closure plan is consistent with subsections (2), (3), (4), and (6) of this section...." and other applicable requirements. The closure plan is not consistent and/or does not include requirements for WAC 173-303-610 (4), (5), (6). FFTF has permitted storage units that have not undergone closure but which received their final quantity of waste several years ago prior to the Ecology inspection. The following inactive units were observed during the inspection: FSF -last used around 2006; ISA last used around 2009. At the time of the Ecology inspection, FFTF did not have any plans to make future use of these units. The FSF seemed inoperable in its present state. The "Schedule for Closure", Section H.4 of Addendum H,

Closure Plan, does not meet the requirements for a longer period for closure, in either WAC 173-303-610(3)(c)(ii), WAC 173-303¬-610(4)(a) nor WAC 173-303-610(4)(b).

Permittee Response to Concern 5

"The Permittees disagree that the last waste receipt at this unit has not happened as specified in WAC 173-303-610(4)(a)." The Permittees acted in good faith to prepare an acceptable closure plan. The plan was included in the draft Part B permit application submitted to Ecology for review on December 5, 2006. Comments on the draft Part B permit application were provided by Ecology and EPA, and after a series of comment resolution meetings, the final draft was prepared. On May 9, 2007, the certified DOE/RL-2006-61, 400 Area WMU Part B Permit Application, Revision 0, including a certified Part A Form, and signed SEPA were submitted to Ecology that incorporated the EPA and Ecology comments. After meetings on August 2 and August 8, 2007, Ecology proceeded to prepare the permit for public review. After the public comment period, the 400 Area WMU was incorporated into the Hanford Facility RCRA Permit, Revision 8C on October 4, 2007, with an effective date of November 21, 2007.

The fact sheet and other documents make it clear that the 400 Area WMU will provide the storage of waste for a long period of time. Despite Ecology comments made during the inspection, the Permittees have reiterated that these storage units will be used for storage of mixed waste generated during future demolition and decommissioning processes at FFTF.

Ecology Concern 6 – Permit Requirement Clarity

WAC 173-303-815(2)(b)(i). Each permit must include permit conditions necessary to achieve compliance with the Hazardous Waste Management Act Chapter 70.105 RCW, this chapter and RCRA subtitle C." In satisfying this provision, the director may incorporate applicable requirements of this chapter directly into the permit or establish other permit conditions that are based on this chapter. At the time of the Ecology inspection and review of the existing permit, it was very difficult for inspectors to evaluate whether or not the facility was in compliance on the above listed concerns and other permit conditions because of the lack of specificity or enforceability of the current permit language. Ecology has serious concerns if requirements of WAC 173-303-¬815(2)(b)(i) for complete permit conditions is followed for the 400 Area WMU in Rev 8C and the draft permit, Rev 9.

Permittee Response to Concern 6

This issue is not within the power of DOE as the Permittee or CHPRC as the co-permittee to resolve. The permitting agency (Ecology) is responsible for implementing the cited regulatory provisions. Ecology can address this concern in the development of 400 Area WMU permit conditions for the draft Rev 9 of the permit.

VERIFICATION OF WEEKLY WMU SURVEILLANCE

MONTH - MARCH

WEEK #	DATE OF SURVEILLANCE	PERFORMED BY	COMMENTS
WEEK #1	3/4/13	JOEL L. RINGS	N/A
WEEK #2	3/11/13	T. MALLEY	NONE
WEEK #3	3/18/13	JOEL RINGS	None
WEEK #4	3/26/13	Mike Reid	None
WEEK #5	N/A	N/A	N/A

Additional Comments:

N/A

Data Sheet 1 – Weekly Inspection Log for 400 Area Waste Management Units

Locations Inspected	Date of Inspection	Time of Inspection
(Sub-section 4.2) Active Storage Areas: FSF (Building 403)	3/4/13	10:02

Compliance and Status			Problems Noted
Is inert gas pressure in feed line to CCP boxes (>2 inH_2O <27 inH_2O) at the Dewar Pad?	(Yes)	No	N/A
Is concrete floor, curbing, and walls in satisfactory condition?	(Yes)	No	
Is container structural integrity satisfactory?	(Yes)	No	
Are containers closed?	(Yes)	No	
Are containers free of significant corrosion?	(Yes)	No	
No evidence of spills or leaks from containers?	(Yes)	No	
No accumulated liquids present?	(Yes)	No	
Is the major risk mark "Dangerous When Wet," in place on each container, legible, and unobscured?	(Yes)	No	

Additional Comments

N/A

Jose L. Ramos
Inspector / Print Name

Inspector / Signature

Locations Inspected	Date of Inspection	Time of Inspection
(Sub-section 4.3) Active Storage Area: ISA	3/4/13	0935

Compliance and Status			Problems Noted
Is container structural integrity satisfactory?	(Yes)	No	N/A
Are containers closed?	(Yes)	No	
Are containers free of significant corrosion?	(Yes)	No	
No evidence of spills or leaks from containers?	(Yes)	No	
No accumulated liquids present?	(Yes)	No	
Is the major risk mark "Dangerous When Wet," in place on each container, legible, and unobscured?	(Yes)	No	
Are modules free of moisture, including condensation?	(Yes)	No	

Additional Comments

N/A

Jose L. Ramos
Inspector / Print Name

Inspector / Signature

Hanford Facility RCRA Permit 400 Area Waste Management Unit Inspections

Published Date: 11/30/12 Effective Date: 11/30/12

Data Sheet 1 – Weekly Inspection Log for 400 Area Waste Management Units

Locations Inspected	Date of Inspection	Time of Inspection
(Sub-section 4.2) Active Storage Areas: FSF (Building 403)	3-11-13	1015

Compliance and Status			Problems Noted
Is inert gas pressure in feed line to CCP boxes (>2 inH_2O <27 inH_2O) at the Dewar Pad?	(Yes)	No	N/A
Is concrete floor, curbing, and walls in satisfactory condition?	(Yes)	No	
Is container structural integrity satisfactory?	(Yes)	No	
Are containers closed?	(Yes)	No	
Are containers free of significant corrosion?	(Yes)	No	
No evidence of spills or leaks from containers?	(Yes)	No	
No accumulated liquids present?	(Yes)	No	
Is the major risk mark "Dangerous When Wet," in place on each container, legible, and unobscured?	(Yes)	No	

Additional Comments

N/A

TIM MAILEY — Inspector / Print Name

Inspector / Signature

Locations Inspected	Date of Inspection	Time of Inspection
(Sub-section 4.3) Active Storage Area: ISA	3-11-13	0945

Compliance and Status			Problems Noted
Is container structural integrity satisfactory?	(Yes)	No	N/A
Are containers closed?	(Yes)	No	
Are containers free of significant corrosion?	(Yes)	No	
No evidence of spills or leaks from containers?	(Yes)	No	
No accumulated liquids present?	(Yes)	No	
Is the major risk mark "Dangerous When Wet," in place on each container, legible, and unobscured?	(Yes)	No	
Are modules free of moisture, including condensation?	(Yes)	No	

Additional Comments

N/A

TIM MAILEY — Inspector / Print Name

Inspector / Signature

FFTF
Project Managers Meeting
825 Jadwin / Room 554
Hanford, Washington

April 26, 2012

Attendance List

Name	Organization	Phone Number
PS Badlani	CHPRC/EP	373-9792
Kathy Knox	Knox Court Reporting	946-5535
DR Faraday	DOE-RL	376-8089
Tony Mischo	CHPRC	376-7313
Jenna Sauls	CHPRC	376-7510
LEE TUTT	CHPRC	376-1045
Rick Bond	Ecology	372-7885
John Wilkerson Jr	CHPRC-EP	371-4782
Darin Carroll	CHPRC	376-1743
Michael Collins	DOE-RL	376-6536
Doug Chapin	DOE-RL/PBS-42	373-9396
Jim Rasmussen	DOE/YAHSCS	376-7574
Brian Dixon	CHPRC	376-7053

FFTF PROJECT MEETING MINUTES

Project Managers Meeting
825 Jadwin/Room 554/700 Area
Richland, Washington

April 26, 2012

I. Review of Approved October 27, 2011 FFTF Project Managers Meeting Minutes

A. The October 2011 meeting minutes were previously approved. Brian Dixon (CHPRC) highlighted a few discussion points from the October 2011 minutes.

II. Administrative Issues

A. The list of attendees for the FFTF PMM was updated.

III. Project Specific Issues, Status and Schedule

A. 400 Area Waste Management Unit

Al Farabee (RL) initiated a discussion regarding reinstatement of weekly inspections for the 400 Area Waste Management Unit (WMU) per the February 21, 2012 letter from Ecology. Doug Chapin (RL) confirmed that weekly inspections were being performed but that Ecology's letter impacted permit changes regarding emergency equipment. Consequently, RL requested a temporary authorization (TA) regarding changes to the Contingency Plan, but the request was rejected by Ecology (see documents submitted to the AR). A Class 2 permit modification was initiated by RL to address the Contingency Plan and the inspection frequency. Jennie Seaver (CHPRC) noted that Ecology requested postponing the public comment period, but RL determined that it was necessary to move forward. The public comment period began April 23, 2012 and ends June 21, 2012. Ms. Seaver added that the issue stems from the contingency plan because the emergency equipment listed in the contingency plan is not current due to transition of FFTF to surveillance and maintenance (S&M) mode. Tony Miskho (CHPRC) stated that the Class 2 change will make the equipment appropriate for the preparedness needed for the current conditions. Rick Bond (Ecology) stated that Ecology is not in agreement that a Class 2 change for the contingency plan was needed at this time. A meeting will be scheduled with Ecology and RL/CHPRC in May 2012 for resolution of the issue with the contingency plan.

B. Mr. Miskho noted that the Class 1 modification regarding the sodium potassium (NaK) was submitted to Ecology for approval, and all the issues should be resolved. Mr. Bond indicated that there were no issues raised within Ecology and the Class 1 modifications should be approved.

C. Mike Collins (RL) reported on an issue regarding the container inventory for the 400 Area interim storage area (ISA). Ecology requested a copy of the operations log for the 400 Area Waste Management Unit during the September 2011 inspection of the area by Ecology and EPA. An error was recently discovered in the log. The log identified 13 containers in the ISA, while the actual number was 19. Mr. Collins stated that RL is in the process of reviewing the records and updating the summary table. Mr. Collins added that backup information has been collected that supports the summary table. Ms. Seaver stated that an updated container log will be provided to Ecology. Joel Williams (CHPRC) stated that he would hand-deliver a hard copy of the revised container log to Ecology and get a signed receipt to be scanned into the inspection record. Mr. Chapin stated that the revised container log will be delivered to Ecology in about two weeks via e-mail and hard copy (see new actions).

D. Ms. Seaver noted that the public comment period for the Class 2 permit modification discussed earlier started April 23, 2012, and a public meeting will be held May 8, 2012 at 6:00 p.m. at the Department of Ecology office in Richland, Washington.

E. Ms. Seaver asked that Ecology approval of the location of operating records for the 400 Area Waste Management Unit be documented in the PMM minutes. Normally the operating record is located at the unit, but other locations are allowed if approved by Ecology. Ms. Seaver asked for approval to retain records at MO-294. Ms. Seaver recommended that changes to the current location of the operating record be discussed and approved in the project managers meeting (PMM) to minimize impacts related to office moves and would be consistent with the general language of the permit.

Mr. Miskho read the language in the permit from section I.E.10.b as follows: "The permittees will retain at the TSD unit, or other location approved by Ecology as specified in Parts III, V and/or VI of this permit, records of monitoring information required for compliance with this permit, including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of reports and records required by the permit, and records of data used to complete the application for this permit for the period of at least ten years from the date of the sample, measurement, report or application, unless otherwise required, for certain information by other conditions of this permit. This information may be retained on electronic media."

Mr. Bond agreed with Ms. Seaver's request to document the location of the 400 Area unit operating record in the PMM, and that the current location is in MO-294.

IV. Milestone Status

A. M-92-09

Mr. Chapin stated that the latest projected schedule for issuance of the final Tank Closure and Waste Management Environmental Impact Statement (EIS) is for late summer 2012. The Record of Decision (ROD) would follow at least 30 days after the EIS is issued.

V. New Topics

A. Mr. Chapin stated that the annual S&M inspection of FFTF needs to be scheduled with Ecology.

VI. New Action Items

A. There were two new actions identified: 1) An updated container log for the ISA will be submitted to Ecology by May 14, 2012; 2) RL will schedule the annual S&M inspection of FFTF with Ecology for June 2012.

VII. Documents for the Administrative Record

A. Mr. Dixon noted four documents that were submitted to the Administrative Record (AR):

1) Ecology letter 12-NWP-024 dated February 21, 2012, reinstating weekly inspections for the 400 Area WMU;
2) RL letter 12-AMCP-0088 dated April 3, 2012, request for Class 2 permit modification and temporary authorization regarding changes to the Contingency Plan and inspection requirements in response to the February 21, 2012 letter from Ecology;
3) Ecology letter 12-NWP-047 dated April 17, 2012, determining that a temporary authorization is not warranted and suggesting an alternate approach;
4) Fact sheet for public comment on proposed Class 2 modifications to the Hanford RCRA permit provisions for the 400 Area WMU (Doc No. 1213399). Mr. Chapin provided the public meeting announcement that was posted in the local Tri-City Herald newspaper to be submitted to the AR as part of the meeting minutes.

VIII. Next Project Managers Meeting

A. The next meeting was scheduled for 0830 on September 27, 2012.

Enclosure 5
13-ESQ-0058

Meeting Minutes Transmittal

FFTF
Project Managers Meeting
825 Jadwin / Room 554
Richland, Washington
April 26, 2012

The undersigned indicate by their signatures that these meeting minutes reflect the actual occurrences of the above dated Project Managers Meeting. Signatures denote concurrence with the content only and are not intended to imply agreement to any commitments.

Date: 18 June 2012
Project Manager Representative, Ecology

Date: 11 June 2012
Project Manager Representative, RL

Date: 6/11/12
Project Manager Representative, CHPRC

FFTF Administrative Record	H6-08
RA Almquist	A3-04
FW Bond	H0-57
DH Chapin	A3-04
ME Eby	N2-57
OA Farabee	A5-11
RA Kaldor	A5-11
DL Polzin	N2-01